Complete Summary

GUIDELINE TITLE

Diabetes mellitus.

BIBLIOGRAPHIC SOURCE(S)

Diabetes mellitus. Philadelphia (PA): Intracorp; 2003. Various p.

GUIDELINE STATUS

This is the current release of the guideline.

All Intracorp guidelines are reviewed annually and updated as necessary, but no less frequently than every 2 years. This guideline is effective from July 1, 2003 to July 1, 2005.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Diabetes mellitus, including:

- Type I
- Type II
- Gestational

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Endocrinology
Family Practice
Internal Medicine
Obstetrics and Gynecology

INTENDED USERS

Allied Health Personnel
Health Care Providers
Health Plans
Hospitals
Managed Care Organizations
Utilization Management

GUIDELINE OBJECTIVE(S)

To present recommendations for the diagnosis, treatment and management of diabetes mellitus that will assist medical management leaders to make appropriate benefit coverage determinations

TARGET POPULATION

Individuals with diabetes mellitus

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis

1. Physical examination and assessment of signs and symptoms
2. Diagnostic tests:
    - Blood chemistries
    - Urinalysis
    - Oral glucose tolerance tests rarely used

Treatment/Management

1. Dietary modification
2. Exercise
3. Oral hypoglycemic agents
4. Insulin
5. Education
6. Yearly ophthalmologic exams and foot care
7. Referral to specialists
8. Physical therapy
9. Chiropractic treatment

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Searches were performed of the following resources: reviews by independent medical technology assessment vendors (such as -the Cochrane Library, HAYES); PubMed; MD Consult; the Centers for Disease Control and Prevention (CDC); the U.S. Food and Drug Administration (FDA); professional society position statements and recommended guidelines; peer reviewed medical and technology publications and journals; medical journals by specialty; National Library of Medicine; Agency for Healthcare Research and Quality; Centers for Medicare and Medicaid Services; and Federal and State Jurisdictional mandates

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

A draft Clinical Resource Tool (CRT or guideline) is prepared by a primary researcher and presented to the Medical Technology Assessment Committee.

The Medical Technology Assessment Committee is the governing body for the assessment of emerging and evolving technology. The Committee is comprised of a Medical Technology Assessment Medical Director, the Benefit and Coverage Medical Director, CIGNA Pharmacy, physicians from across the enterprise, the Clinical Resource Unit staff, Legal Department, Operations, and Quality.

Revisions are suggested and considered. A vote is taken for acceptance or denial of the CRT.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Comparison with Guidelines from Other Groups
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Diagnostic Confirmation

Subjective Findings

- Polydipsia (excessive thirst)
- Polyphagia (excess food intake)
- Polyuria (excessive urination)
- Weight loss, often despite good or above average oral intake
- Blurred vision
- Weakness and malaise
- Orthostatic dizziness or lightheadedness
- In addition, patients presenting initially with ketoacidosis may complain of malaise, severe abdominal pain, nausea and vomiting, dyspnea, and vaginal itching.

Objective Findings

- Signs of dehydration: fast heart rate, low blood pressure, and orthostatic hypotension

- In those presenting with ketoacidosis, a characteristic fruity odor of acetone on the breath (reflecting ketoacidosis), tachypnea, and diffuse abdominal pain to palpation may be present. (See Intracorp guideline Diabetic Ketoacidosis)
- Patients with long-standing insulin-dependent diabetes mellitus (IDDM) may develop other physical findings
    - Signs of vascular disease at the level of both large and small arteries: carotid bruits, decreased peripheral pulses, ulcers of the feet and shins, blindness, and severe hypertension
    - Peripheral neuropathy
    - Elevated blood glucose

Diagnostic Tests

- Blood chemistries
- Urinalysis
- Oral glucose tolerance tests are rarely used currently due to difficulties in interpretation and lack of standardization.
- Laboratory values in patients presenting with IDDM may show:
    - Elevated plasma glucose level: a plasma glucose level of greater than 140 mg/dL after an overnight fast on two different occasions is diagnostic.
    - A positive urine dipstick for glucose (and, in ketoacidosis, for ketones) may be present, depending on the degree of hyperglycemia.
    - Signs of dehydration, elevated blood urea nitrogen (BUN), and creatinine, hyponatremia
    - Glycosylated hemoglobin (HbA1C) greater than 7.0% (a measure indicating long-standing elevations in blood glucose levels) is usually present if the disease has been present for more than 2 months (norms vary).
    - Elevations in serum cholesterol (especially low-density lipoprotein [LDL]) may be present.
    - Patients presenting with ketoacidosis will have an increased anion gap, serum and urine ketosis, and dramatically elevated blood glucose concentrations.

Differential Diagnosis

- In patients presenting with polyuria, polydipsia, hyperglycemia, and weight loss, the diagnosis of diabetes is relatively straightforward, with a limited differential diagnosis that includes
    - Hyperthyroidism
    - Endocrine tumors (Cushing's syndrome and renal tumors)
    - Exogenous steroid use
    - Decreased insulin secretion due to pharmacologic agents (thiazide diuretics, phenytoin, pentamidine)
- On February 3, 2003, the US Preventive Services Task Force (USPSTF) recommended that adults with high blood pressure or high cholesterol be screened for type 2 diabetes as part of an integrated approach to reduce cardiovascular disease.

<u>Treatment Options</u>

- Dietary modification
- Regular exercise
- Oral hypoglycemic agents
- Insulin: many forms of insulin are currently available
- Extensive education about the disease process; local chapters of the American Diabetes Association may provide excellent sources of information and support
- Yearly ophthalmologic exams and careful foot care

Duration of Medical Treatment

- Notes:
    - Medical care is required for the lifetime of the patient.

Additional provider information regarding primary care visit schedules, referral options, frequency and duration of specialty care, physical therapy, chiropractic treatment, and durable medical equipment are provided in the original guideline document.

The original guideline document also provides a list of red flags that may affect disability duration, and return to work goals for the following scenarios:

- Resolving symptoms of polyuria, polydipsia, weight loss
- Resolving insulin regimen
- After hospitalization for ketoacidosis

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting the recommendations is not specifically stated.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate diagnosis, treatment, and management of diabetes mellitus that assist medical management leaders in making appropriate benefit coverage determinations

POTENTIAL HARMS

None stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Diabetes mellitus. Philadelphia (PA): Intracorp; 2003. Various p.

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1997 (revised 2003)

GUIDELINE DEVELOPER(S)

Intracorp - Public For Profit Organization

SOURCE(S) OF FUNDING

Intracorp

GUIDELINE COMMITTEE

CIGNA Clinical Resources Unit (CRU) Medical Technology Assessment Committee (MTAC)

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Voting Committee Members

James Rollins, MD, Medical Director of the Technology Assessment Committee; Razia Hashmi, MD, VP Coverage and Policy and Medical Director of the Clinical Resource Unit (CRU); Janet Mauer, MD, Medical Director of the LIFESOURCE Transplant Unit; Jim Small, MD, Medical Director of Intracorp Disability; Christina Stasiuk, DO, Associate Medical Director, Intracorp; Andrea Gelzer, MD, Senior Medical Director, Tri-State; Nicholas Gettas, MD, Senior Medical Executive, Atlantic UB; Steve Halpern, MD,CIGNA Appeals; Robert Hoover, MD, Medical Operations Review Director; Karen Lachaux, RPh, Director, Drug Policy; John Poniatowski, RPh, AVP CIGNA Pharmacy; John Rausch, MD, Associate Medical Director; Douglas Nemecek, MD, AVP of CIGNA Behavioral Health

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

Electronic copies: Intracorp guidelines are available for a licensing fee via a password protected, secure Web site at www.intracorp.com.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Policies and procedures. Medical Technology Assessment Committee Review Process. Philadelphia (PA): Intracorp; 2004. 4 p.

Print copies: Available from Intracorp, 523 Plymouth Road, Plymouth Meeting, PA, 19462; Phone: (610) 834-0160

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on December 3, 2004. The information was verified by the guideline developer on January 4, 2005.

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